REMARKS/ARGUMENTS

Claims 28-30, 32-38, 40-41 and 43-45 are pending. Claims 28, 30, 32, 34-35, 37-38, 40 and 43-44 have been amended herein, and claims 27, 31, 39, and 42 have been cancelled herein. Reconsideration is respectfully requested.

1. Rejection of Claims 27-45 Under § 102(e)

Claims 27-45 stand rejected under 35 U.S.C. 102(e) as being anticipated by USP 6,329,685 (Lee). Claims 27, 31, 39, and 42 have been cancelled. Claims 30, 35, 37-38, 40 and 44 have been amended into independent form, and the Applicants respectfully traverse this rejection with respect to these claims and the claims dependent thereon.

The pending claims recite a memory device (or array of such devices) having, among other things:

- a *source region* having a lower portion disposed vertically over the first region and laterally adjacent to and insulated from the floating gate, and an upper portion extending up and over the floating gate and terminating in a *first end* that is disposed vertically over and insulated from the floating gate;
- a *control gate* having a first portion disposed laterally adjacent to and insulated from the floating gate, and a second portion extending up and over the floating gate and terminating in a *second end* that is disposed vertically over and insulated from the floating gate;
- where the *first and second ends* are disposed laterally adjacent to and insulated from each other such that:
    - no portion of the control gate is disposed directly between the floating gate and the source region (claims 30, 35, 37, 38), or
    - there is no vertical overlap between the control gate and the source region (claims 40, 44).

Claims 28-30, 32-36, 41 and 45

Regarding claims 30, 35, 41 and 45, these claims further recite an insulation material disposed "*directly between*" the *floating gate* and the *second end* (of the control gate) "having a thickness permitting Fowler-Nordheim tunneling of charges therethrough." Lee fails to teach such insulation material. Instead, Lee teaches tunneling from the sharp tip of the floating gate to the control gate (Col. 9, lines 51-58). Fig. 6I-4 of Lee shows that the floating gate sharp tip is disposed adjacent a mid portion of the control gate 40, where the thickness of the insulation material between the floating gate sharp tip and the control gate mid-portion is much less than the thickness of the insulation material disposed "directly between" the floating gate and the second end of the control gate. It is well known in the art that substantially all tunneling current will occur through insulation material disposed between two conductive gates at or near the point of the highest concentration of electric field lines (i.e. at portions thereof closest together), with little or no likelihood of tunneling involving portions of the conductive gates separated by significantly thicker insulation. Thus, since the insulation material separating the floating gate tip and the control gate mid portion is much thinner than the insulation material disposed "directly between" the floating gate and the control gate second end, it is submitted that the insulation material disposed "*directly between*" the floating gate and the control gate second end simply does not have a thickness permitting Fowler-Nordheim tunneling as recited by the rejected claims.

On page 4 of the final Office Action, the Examiner states that Col. 8, lines 55-62 support the conclusion that insulation layer 26 of Lee is disposed "*directly between*" the floating gate 14 and the control gate second end, and has a thickness permitting Fowler-Nordheim tunneling of charges therethrough. The Applicants respectfully disagree. The language from Lee cited by the Examiner merely acknowledges that there is tunneling between the floating and control gates. However, there is no teaching or suggestion that the tunneling can or would occur between the floating gate and the control gate second end. As mentioned above, such tunneling is taught to occur from the floating gate sharp tip, and one in the art would recognize that such tunneling

would occur with the mid portion of the control gate adjacent the sharp tip, not with the control gate second end which is separated from the floating gate by much thicker insulation.

Therefore, the Applicants respectfully submit that claims 30, 35, 41 and 45, as well as claims 28-29, 32-34 and 36 dependent thereon, are allowable over Lee.

Claims 37-38, 40-41, 43, and 44-45

Regarding claims 37, 38, 40 and 44, these claims further recite insulation material disposed "*directly between*" the *first end* (of the source region) and the floating gate, and having a thickness for permitting voltage coupling therebetween. Yet, no such insulation material exists directly therebetween in the Lee device, as a conductive element 34 is disposed between the source region first end and the floating gate. Moreover, the thicknesses of insulation materials 36 and 26 are clearly not designed for voltage coupling given the conductive element 34 would block any such voltage coupling.

On page 4 of the final Office Action, the Examiner states that Lee shows insulation material between the *lower portion* of the source region 50 and the floating gate, having a thickness permitting voltage coupling therethrough. However, this is not what is claimed. The claimed "first end" of the source region is not on the *lower portion* of the source region, but rather is on the portion that extends up and over the floating gate and is disposed vertically over the floating gate.

The Examiner also states on page 4 of the final Office Action that Lee shows insulation material 36 *directly between* the source region first end and the floating gate. The Applicants respectfully traverse this conclusion. Fig. 6I-4 of Lee clearly shows that material 36 is disposed *directly between* the upper portion of source 50 and conductive element 34, not floating gate 14. With mateial 36, conductive element 34, and material 26 all disposed between the source first end and the floating gate, insulation material 36 cannot be deemed to be *directly between* these two elements as recited in the rejected claims.

Therefore, the Applicants respectfully submit that claims 37, 38, 40 and 44, as well as claims 41, 43, and 45 dependent thereon, are allowable over Lee.

For the foregoing reasons, it is respectfully submitted that the claims are in an allowable form, and action to that end is respectfully requested.

Respectfully submitted,

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